Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Shreveport Sulfuric Acid Plant
Chemtrade Logistics, Inc.
Shreveport, Caddo Parish, Louisiana
Agency Interest Number: 2340
Activity Number: PER20080002
Proposed Permit Number: 0500-00003-V3

I. APPLICANT

Company:
Chemtrade Logistics, Inc.
PO Box 52147
Shreveport, Louisiana 71135-2147

Facility:
Shreveport Sulfuric Acid Plant
10889 Hwy 1 S
Shreveport, Caddo Parish, Louisiana
32.356389 latitude, -93.634722 longitude, Coordinate Method: Lat/Long – DMS
Coordinate Datum: NAD83

II. FACILITY AND CURRENT PERMIT STATUS

The Shreveport Plant produces sulfuric acid by burning molten sulfur in a sulfur furnace with dry air and burning spent sulfuric acid in the regeneration furnace. Hot gases (containing sulfur dioxide, oxygen, and nitrogen) from the sulfur furnace pass through a waste heat boiler to generate steam, which drives turbines throughout the plant. These gases are combined with gases from the regenerative furnace and routed to the catalytic converter to convert SO_2 to SO_3.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was dated November 20, 2008 requesting a Part 70 operating permit renewal and modification for the Shreveport Sulfuric Acid Plant.

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Project

This modification will update several emission source names as well as reconcile emissions for sources that have increased throughput.

Proposed Permit

Permit 0500-00003-V3 will be the Part 70 operating permit renewal and modification of Part 70 operating permit 0500-00003-V2 for the Shreveport Sulfuric Acid Plant.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	20.79	20.79	-
SO_2	431.32	431.32	-
NO_X	10.47	10.47	-
CO	0.22	0.22	-
VOC *	3.68	3.68	-

*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Benzene	0.002	<0.001	- 0.002
Formaldehyde	0.063	0.064	0.001
Cresol	< 0.001	< 0.001	-
Dicholorbenzene	< 0.001	< 0.001	-
Ethylbenzene	< 0.001	< 0.001	-
n-Hexane	0.313	0.198	- 0.115
n-Butyl alcohol	2.000	2.000	-
Toluene	0.021	0.021	-
Naphthalene	0.133	0.002	- 0.131
Xylene	0.010	0.010	-
Total	2.542	2.295	- 0.247

Other VOC (TPY): 1.385

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Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Hydrogen Sulfide	0.176	0.180	+ 0.004
Sulfuric Acid	15.020	15.010	- 0.010
Total	15.196	15.190	- 0.006

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
EQT 7 (EPN 07-91) SO2 Scrubber Tailgas Vent	Compliance Assurance Monitoring (CAM) [40 CFR 64]	EXEMPT. Exempt per 40 CFR 64.2 (b)(1)(vi). EPN 7-91 has an emission limitation or standard for which a Part 70 permit specifies a continuous compliance etermination method.

Prevention of Significant Deterioration/Nonattainment Review

PSD review was not required.

MACT Requirements

MACT is considered compliance with ambient air standards unless it can be demonstrated to the satisfaction of DEQ that compliance with an ambient air standard would be economically infeasible; that emissions could not reasonably be expected to pose a threat to public health or the environment; and that emissions would be controlled to a level that is Maximum Achievable Control Technology. (Facility uses an acid mist eliminator with a 97.66% efficiency rating per Compliance Plan CC92046, which was approved on March 25, 1994)

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Air Quality Analysis

Emissions of SO_2 and H_2SO_4 were modeled and reviewed by the Air Quality Assessment Division for compliance with the NAAQS and AAS with Permit No.: 0500-0000-V0 issued June 1, 2004. Emissions for both pollutants were in compliance with the NAAQS and AAS. There have been no changes in SO_2 emissions from initial modeling and a very minimal change in H_2SO_4 emissions (+0.004 tons/yr). LDEQ did not require a re-model of emissions.

Dispersion Model(s) Used: ISCST3 (Screen)

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
H_2SO_4	8 hour	7.99 $\mu g/m^3$	23.80 $\mu g/m^3$
SO_2	Annual	9.51 $\mu g/m^3$	80 $\mu g/m^3$
SO_2	24 hour	90.71 $\mu g/m^3$	365 $\mu g/m^3$

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

A permit shield Per 40 CFR 60.6(f) and LAC 33:III.507.I has not been requested and is not included in the proposed permit.

VI. PERIODIC MONITORING

The Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are straightforward and provided in the Specific Requirements section of the permit.

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VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air

Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.